A changing Arctic
Dialogues from the North

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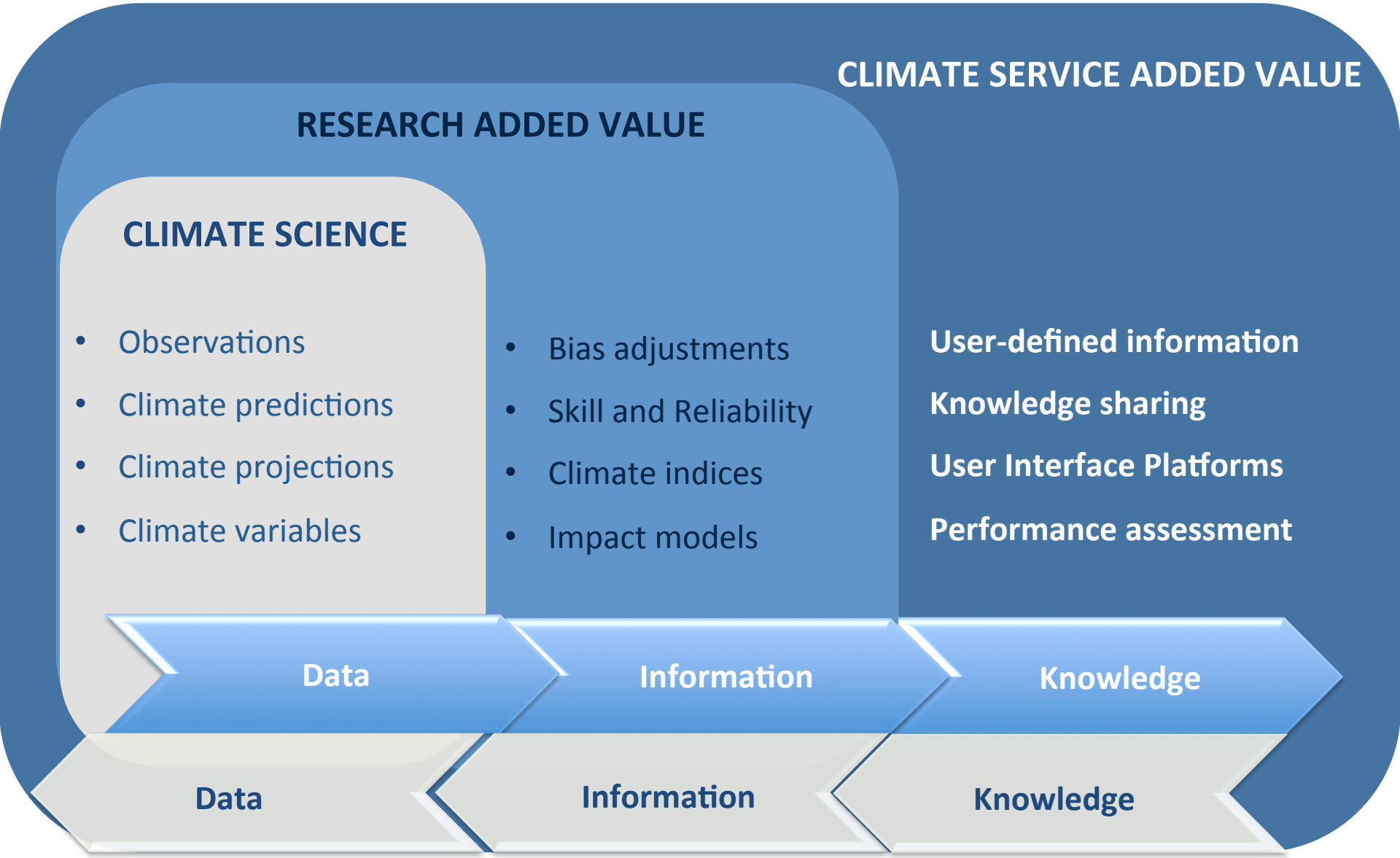
Centro Nacional de Supercomputación

Adaptation Futures, Cape Town
21 June 2018

Climate services: from climate data to knowledge



EU H2020 Project APPLICATE

Advanced **P**rediction in **P**olar regions and beyond: Modelling, observing system design, and **LI**nkages associated with a **C**hanging **A**rctic clima**TE**

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APPLICATE
Understanding Arctic's Connections to Weather and Climate Across the Northern Hemisphere

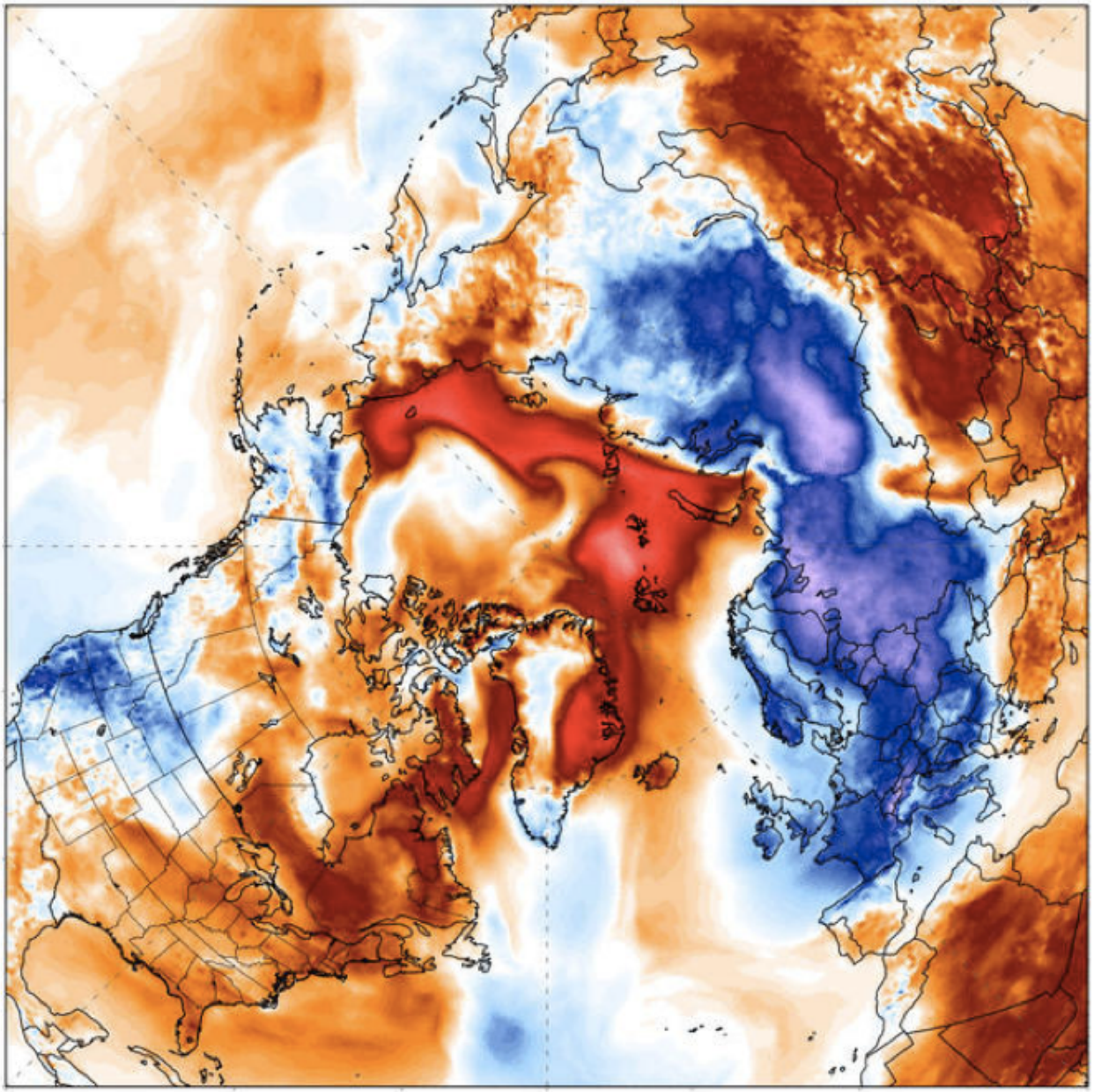
Aleutian Islands
PACIFIC OCEAN
Petropavlovsk-Kamchatsky
Bering Sea
10° C July isotherm
Kamchatka
Sea of Okhotsk
Gulf of Alaska
Korvaks Mts.
Amur
Anchorage
Anadyr
Magadan
Okhotsk
Yukon River
Juneau
Alaska Range
ALASKA (USA)
Kolyma Mountains
Whitehorse
Fairbanks
Bering Straight
Kolyma River
Aldan
Teslin
Dawson
Rocky Mountains
Brooks Range
Chukchi Sea
Yakutsk
Mackenzie Mountains
Barrow
Chersky Range
Calgary
Prudhoe Bay
East Siberian Sea
Verkhoyansk
Lena River
Edmonton
Mackenzie River
Inuvik
Verkhoyansk Range
Great Bear Lake
Great Slave Lake
Yellowknife
New Siberian Islands
Tiksi
Lake Baikal
Canada Basin
Lake Athabasca
Banks Island
Laptev Sea
CANADA
Victoria Island
ARCTIC OCEAN
Central Siberian Upland
Lake Winnipeg
Makarov Basin
Churchill
Arviat
Taymyr Peninsula
North Land
Alpha Ridge
Lomonosov Ridge
RUSSIAN FEDERATION
Rankin Inlet
Resolute
Norilsk
Yenisey
Naujat
Ellesmere Island
Amundsen Basin
Nansen-Gakkel Ridge
Yenisey River
Hudson Bay
Alert
Franz Josef Land
Ob River
Novosibirsk
Foxe Basin
Qaanaaq
Nansen Basin
West Siberian Plain
James Bay
Baffin Island
Novaya Zemlya
Kara Sea
Salekhard
Baffin Bay
SVALBARD (NORWAY)
Khanty-Mansiysk
Omsk
Iqaluit
Longyearbyen
Vorkuta
Labrador
GREENLAND (DENMARK)
Barents Sea
Naryan-Mar
Ilulissat
Fram Strait
Ural Mountains
Davis Strait
Sisimiut
Bjørnøya
ARCTIC CIRCLE
Yekaterinenburg
Nuuk
Greenland Sea
Chelyabinsk
Syktyvkar
Murmansk
Kola Peninsula
Perm
Ufa
Ammassalik
Jan Mayen
Tromsø
Arkhangelsk
N. Dvina
White Sea
Kazan
Norwegian Sea
Lake Onega
ICELAND
Reykjavik
FINLAND
Lake Ladoga
10° C July isotherm
NORWAY
SWEDEN
Helsinki
St. Petersburg
Moscow
Gulf of Bothnia
Tallinn
FAROE ISLANDS (DENMARK)
Torshavn
Baltic Sea
Oslo
Stockholm
Riga
ATLANTIC OCEAN
Vilnius
Minsk
North Sea
Copenhagen
Kiev
Warsaw
Dublin
Berlin
Amsterdam
London
Brussels

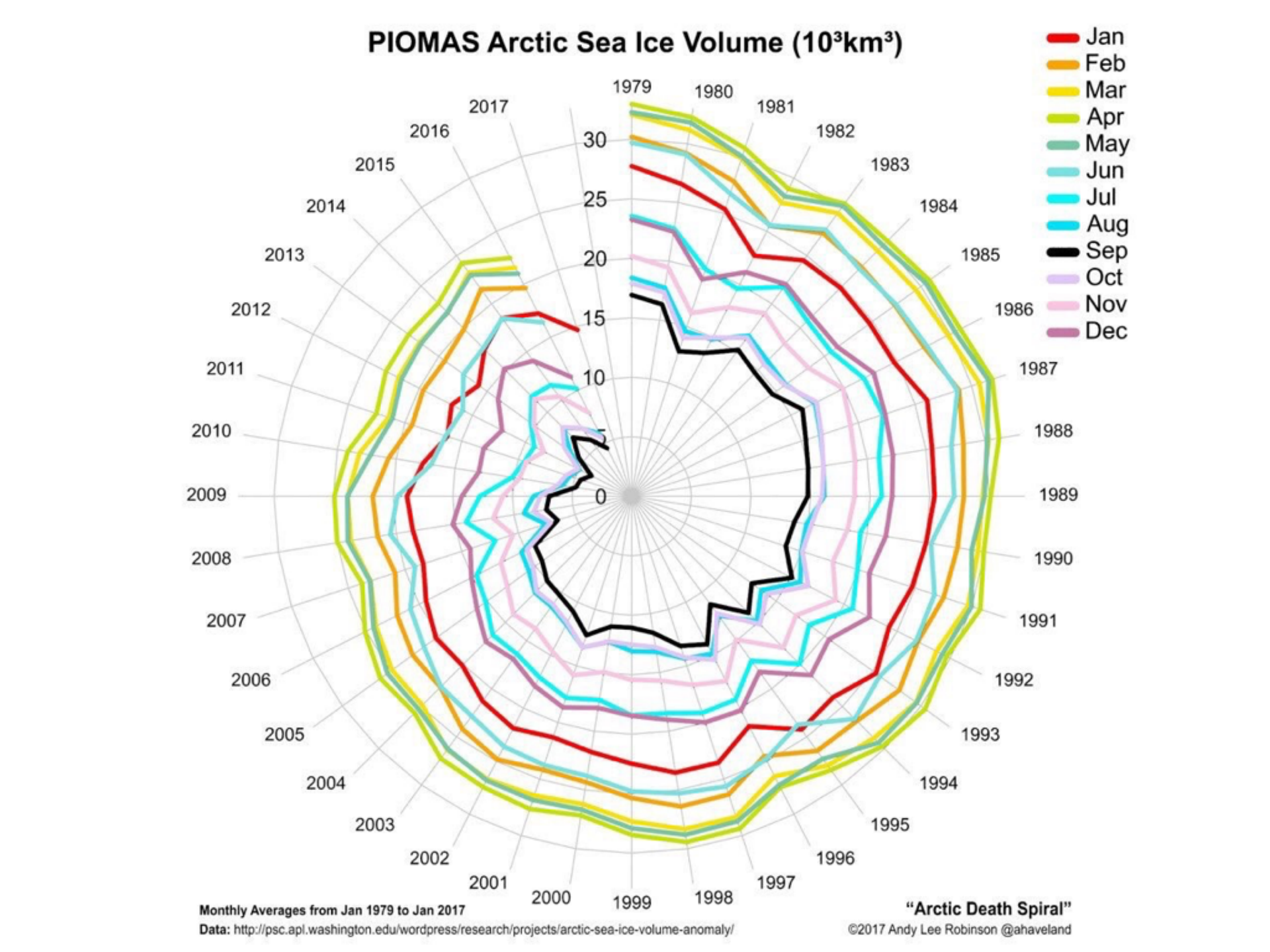
GFS/CFSR 2m T Anomaly (°C) [1979-2000 base]

Init 2018/02/27 00Z | f000 Valid Tue 00Z, Feb 27, 2018

ClimateReanalyzer.org

University of Maine | Climate Change Institute




PIOMAS Arctic Sea Ice Volume (10³km³)
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
1979
1980
1981
1982
1983
1984
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2008
2009
2010
2011
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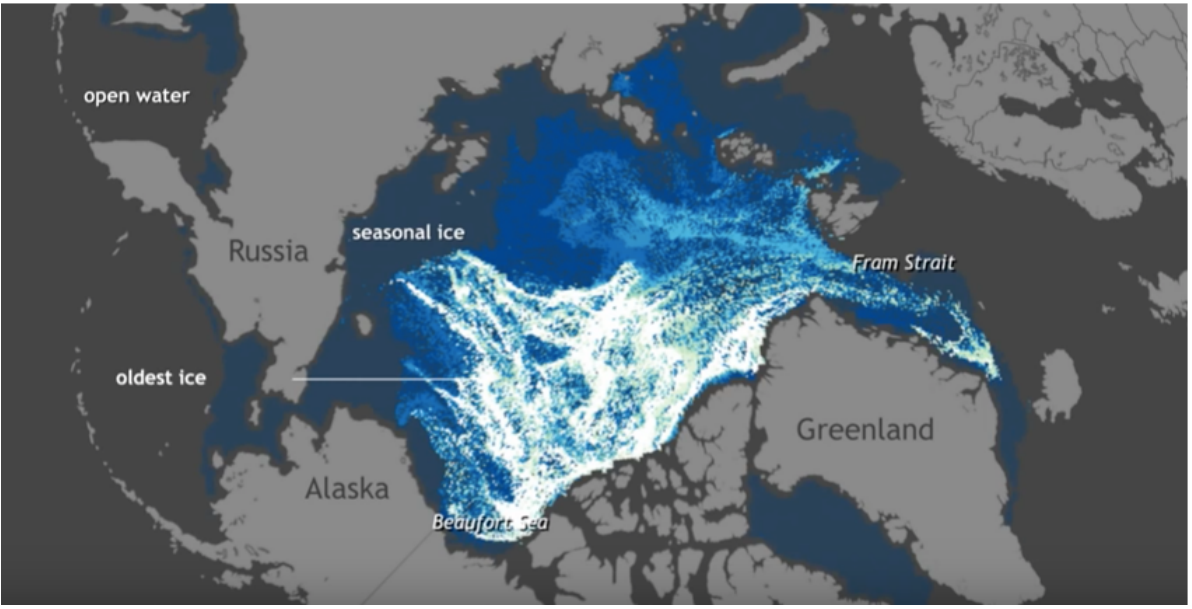
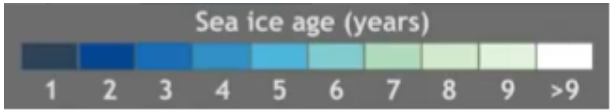
2014
2015
2016
2017
30
25
20
15
10
5
0
Monthly Averages from Jan 1979 to Jan 2017
Data: http://psc.apl.washington.edu/wordpress/research/projects/arctic-sea-ice-volume-anomaly/
"Arctic Death Spiral"
©2017 Andy Lee Robinson @ahaveland

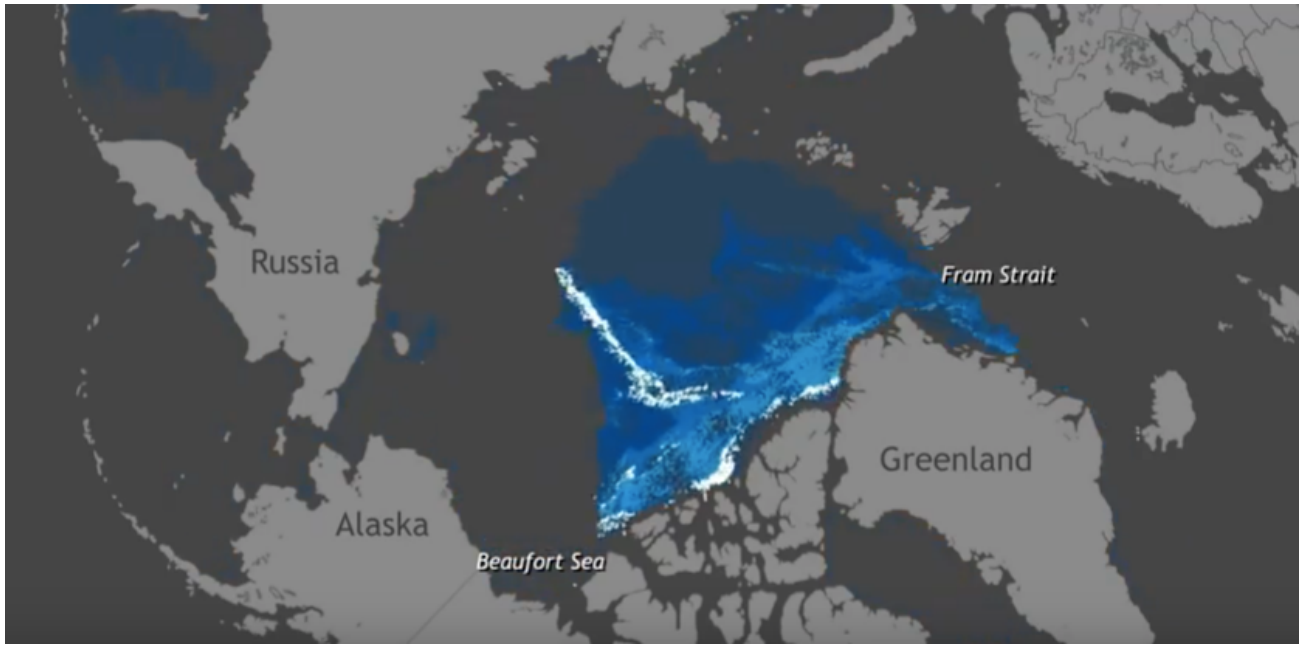
Sea ice age



1992

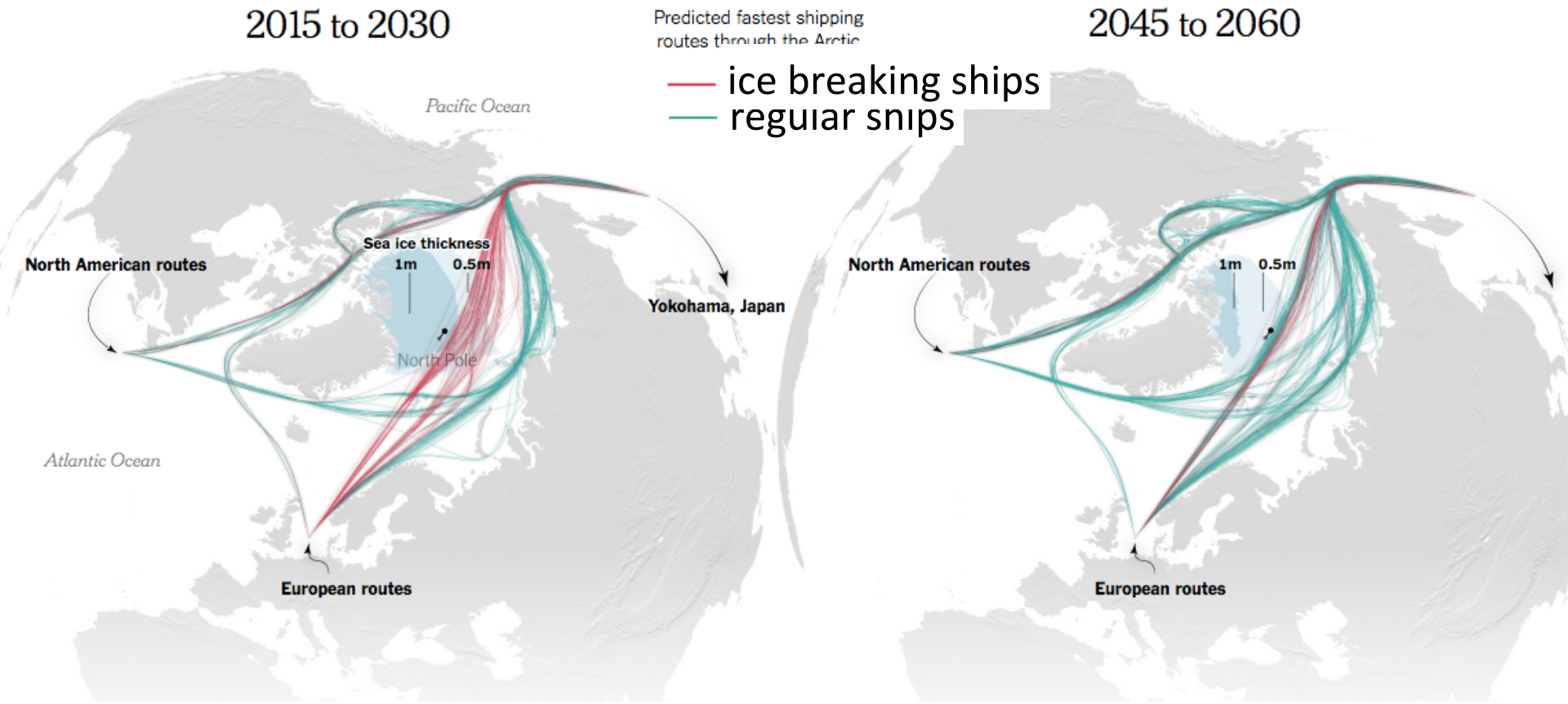


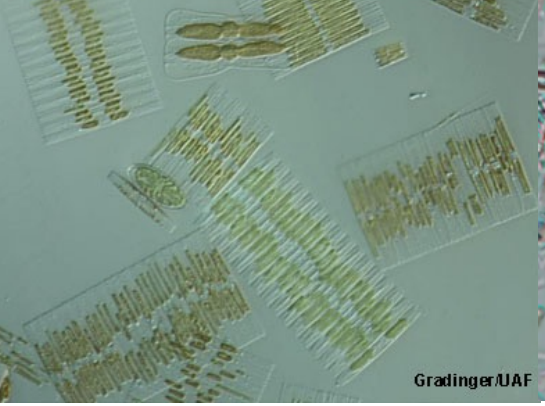
NOAA climate.org

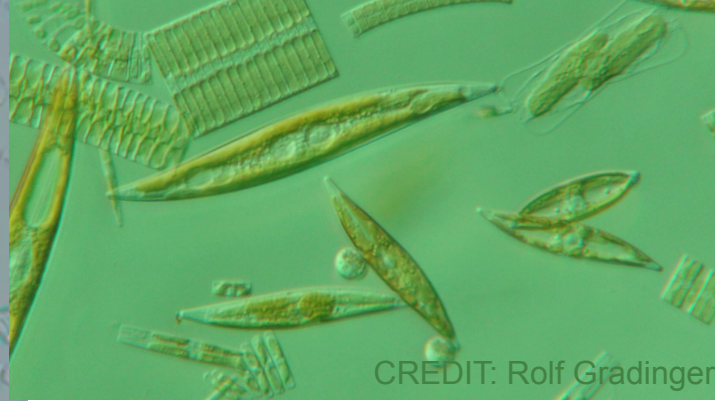


2012

The New York Times




Gradinger/UAF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EU Arctic Cluster

Polar Prediction Matters blog

Thank you!

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